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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,896	11/18/2003	Jan G. Fager	1504-1034	2815
466	7590	04/10/2006	EXAMINER	
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			NGUYEN, THU V	
			ART UNIT	PAPER NUMBER
			3661	

DATE MAILED: 04/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/714,896	Applicant(s) FAGER ET AL.	
	Examiner Thu Nguyen	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.138(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 13-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 23-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The amendment filed on January 24, 2006 has been entered. By this amendment, all claims 1-43 are now pending in the application. Non-elected claims 2-4, and 43 will be examined in this office action. Claims 1-12, 23-43 are now examining in this office action. Non-elected claims 13-22 are withdrawn from consideration (refer to the “response to argument” section below).

Claim Objections

1. Claim 1 is objected to because of the following informalities:

In claim 1, lines 10-13, the claim limitation does not explicitly state that the items (i) and (ii) in lines 14-23 are two substeps of the limitation in lines 10-13.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-12, 23-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. In claim 1, line 15-17, the claimed “and by recording the relative incident position ...” does not seem to make a complete sentence and does not seem to have any relationship

with the any other limitation in the claim. The application of the limitation to the claim is also not stated in the claim.

- b. In claim 1, lines 8, 11, 20, 24, 26, etc. the alternative “and/or” is ambiguous. It is not clear when the limitation should be interpreted as “and” and when it should be interpreted as “or”. If (or when) the limitation is interpreted as “and”, the limitation (x,y,z) or angles or rotation (α , β , and γ) does not seem correct because both position and orientation cannot be determined if only the translation coordinate (or only the angles of rotation) is known.
- c. In claims 2; 5-12; 42-43, the alternative “and/or” are similarly ambiguous as explained above.
- d. Other claims are rejected as being dependent on the rejected base claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-12, 23-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinbrecher (US 6,665,631).

As per claim 1, Steinbrecher teaches a method for determining the position or orientation of a creature , the method comprises: providing a locating member including a transponder to a

creature 12 (fig.1) (col.8, lines 7-10); operating the transponder to determine the transponder position or orientation with respect to at least two degree of freedom relative to the environment (col.8, lines 13-18; col.10, lines 33-37; col.12, lines 8-14; col.11, lines 39-42) by receiving incident optical signals from at least two signal sources 20, 22, 24, 26 (fig.1) in the environment (col.11, lines 39-42; col.12, lines 9-14; col.9, lines 4-6), and by calculating and using a direction of each sight line extending between each signal source and the transponder to determine the transponder position or orientation (col.11, lines 39-42) with respect to the at least two degree of freedom relative to the environment (col.8, lines 7-15; col.11, lines 39-44; col. 12, lines 8-14; col.10, lines 33-37). Steinbrecher does not explicitly disclose that the locating device is a transducer, Steinbrecher does not explicitly disclose mechanically connecting the transponder to a creature so that the relative positions and orientations of the creature and the transponder is known limited distance; using translation coordinates or angles or rotation to determine the position of the transponder, and determining the position or orientation of the creature from the determined transponder's position and orientation. However, it would have been well known that transponders usually contain transducers, since Steinbrecher teaches using the transponder, Steinbrecher obviously encompasses including the transducer in the transponder to accept data transmitted to the transducer. Moreover, since Steinbrecher teaches using distance vectors between the transponder and the fixed transmitters (col. 12, lines 7-14) to determine the position of the transponder, and using the orientation of the vectors to determine the orientation of the transponder in the environment (col.11, lines 39-44), Steinbrecher also teaches transmitting position information to the transponder (col. 7, lines 5-18) which is well known to be translation

coordinate or angular coordinate format, and since using the translation coordinate of the end points of the vector (which represent the vector itself), and the angle of rotation (which normally represent the vector direction) to determine the magnitude of the vector or vice versa would have been well known, Steinbrecher obviously encompasses teaching using translational coordinates at the end point of the vector (the coordinate of the transmitting transponder), and using angle rotation of the vectors to determine the position of the transponder in the environment.

Steinbrecher does not explicitly teach determining the position of the creature from the calculated position of the transponder, however, since Steinbrecher teaches determining the position of the creature carrying the transponder (col.10, lines 32-37), and since subtracting the known location of the transponder from the known distance or angle of the transponder from a specific point of the creature to determine the position of that specific point with respect to the environment would have been very well known mathematical manipulation. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to attach the transponder to a specific location in the creature and to determine the position of the creature in the environment in the system of Steinbrecher in order to accurately determine the relative position of a specific point of the creature to the environment to enhance accuracy in determining position between objects.

As per claim 2, refer to claim 1 above.

As per claim 3-4, Steinbrecher teaches using microwave or acoustic wave (col.9, lines 1-4).

As per claim 5-6, refer to claim 1 above. Steinbrecher teaches determining three or six degrees of freedom (col.12, lines 9-14; col.11, lines 40-44).

As per claim 7-9, 28, Steinbrecher teaches mapping the movement of an object when the position of the object, or the relative position of the object is known (col.13, lines 12-15). Furthermore, recording the position of the creature after calculating the position or orientation, and recording a property of the environment would have been well known, adding the well known feature to the position determining device of Steinbrecher to provide positional and additional information to another object or user would have been obvious matter of design choice.

As per claim 10-11, Steibrecher teaches determining the position of the creature in an unpredictable way (col.8, lines 10-30). Moreover, determining the position of an object moving along a trained predetermined path would have been both well known and obvious matter of design choice.

As per claim 12, 29, Steinbrecher teaches directing the creature movement (col.14, lines 10-12) by transferring information to the creature (col.13, lines 27-28).

As per claim 23-27, using direction area receiver for receiving directional signals at different and specific solid angle would have been both well known and obvious matter of design choice depending on the specific need such as limiting the range or angle area of receiving information of objects, etc. of the application.

As per claim 30-34, Steinbrecher teaches the capability of transferring information from the creature to a transponder (col.13, lines 32-34). Further, transferring necessary information from a creature to a locating object, providing any information such as viewing angle, nature of the environment, etc when such the information is available would have been both well known and obvious matter of design choice.

As per claim 35, Steinbrecher teaches transferring information to a computer unit (col.13, lines 58-61), therefore transferring the information to any external central computer via transmitter and receiver would have been obvious.

As per claim 36, Steinbrecher teaches transferring data from the central computer to the locating member (col.13, lines 58-64).

As per claim 37-42, Steinbrecher teaches transferring information to a computer unit (col.13, lines 58-61). Furthermore transferring data to a creature through a representation unit

for communicating with the creature, recording the environment by means of sensors, and determining the position of the creature by the relative incident directions of the signal received would have been well known.

As per claim 43, Steinbrecher teaches determining the position or orientation of the transducer by receiving incident signals from the signal source in the environment (col.11, lines 9-10, lines 25-30).

Response to Arguments

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

In page 16, second paragraph, the applicant requests for an interview prior to another office action. However, in view of the amendment submitted on January 24, 2006 with substantial changes in the scope of the claims, the examiner determines that must be substantial changes in the ground of rejection to accommodate the change of the scope of the claim, the examiner determines that it is of better interest to both the applicant and the examiner to let the applicant to review this office action prior to any possible interview. An interview will be granted to applicant if requested after the applicant has carefully reviewed this office action.

In page 16, last paragraph, the applicant requests withdrawal of the restriction requirements for claims 2-4, 13-22, and 43. In view of the amended claims, the examiner agrees to withdraw restriction requirement for claims 2-4, and 43. However, claims 13-22 include

several different subject matters such as providing environment phenomena (claim 13), using references in determining position (claim 16), etc. To reduce the burden from searching for the additional features and to ensure quality of service, the examiner believes that the claims should be withdrawn from consideration.

In page 24, last paragraph, the applicant emphasizes that the position recorded are the positions where the incident signals hit the transducer. Although recording the position is stated in the claim, the claim does not teach how the position is utilized or why the position is needed in determining the position of the transducer. The limitation does not seem to have any relevant usage in determining the position of the transducer. Since Steinbrecher teaches determining the position of the transponder from the vector representing the transmitted signal from the transponders 14, 16, 22, 26, etc. to the object, Steinbrecher also teaches transmitting position information to the transponder of the creature (col. 7, lines 5-18) which is well known to be translation coordinate or angular coordinate format, Steinbrecher at least encompasses using the position of the received signal determine the position of the transponder when the magnitude and the tail end (the position of the transmitting transducer) of the vector is known.

In page 25, last paragraph, the applicant asserts that the transducer of the present application does not broadcast any signal, but is used to receive and record signals from signal sources. Although the transponders taught by Steinbrecher can broadcast signals, the transponders taught by Steinbrecher is also used to receive signals from signal sources (col.10, lines 41-55; col.11, lines 24-30); therefore, the transponder taught by Steinbrecher also encompasses the receiving function taught in the independent claims.

Concerning applicant's remark on page 27, first paragraph, claim 6 does not disclose direct angular measurement. Claim 26 seems to disclose signal receiving direction area, however, claim 26 does not teach how the use of direct area signal improves position accuracy. It seems using directional transducer when the inventor wants the transducer to receives signals that is within the angular reception area of the directional receiver, but using directional receiver does not seem improving the calculation of the position. Note that the transponder taught by Steinbrecher also provide accurate position calculation (col.10, lines 32-37).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

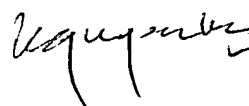
Art Unit: 3661

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (571) 272-6967. The examiner can normally be reached on T-F (7:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 22, 2006


THU V. NGUYEN
PRIMARY EXAMINER